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WHAT IS CLAIMED IS:

1. A tape reel assembly for a data storage tape cartridge, the cartridge configured to couple to a tape drive, the tape reel assembly comprising:

a hub including:

a cylindrical core defining a drive side and a top side;

an annular arm co-axially disposed exterior to and separated from the cylindrical core, the annular arm defining a tape winding surface bisected by a center line into a top half opposite the drive side and a bottom half adjacent the drive side; and

a web extending from the top side of the core having a web center connecting to the annular arm at a point in the top half.

2. The tape reel assembly of claim 1, wherein the hub is configured such that upon loading, the tape winding surface exhibits approximately symmetrical radial deformation.

3. The tape reel assembly of claim 2, wherein the hub is configured to exhibit a variation in radial deformation between the top and bottom halves of not more than 0.0002 inch per 100 psi of applied radial load.

4. The tape reel assembly of claim 3, wherein the hub is configured to exhibit a variation in radial deformation between the top and bottom halves of not more than 0.0001 inch per 100 psi of applied radial load.

5. The tape reel assembly of claim 1, wherein the web center connects to the annular arm no greater than one-half an axial length of the top half.

6. The tape reel assembly of claim 1, wherein the web center connects to the annular arm not greater than one-fourth an axial length of the top half.

7. The tape reel assembly of claim 1, wherein the web center connects to the annular arm at a point approximately 0.05 inch from the center line.

8. The tape reel assembly of claim 1, further comprising an upper flange and a lower flange, the upper and lower flanges extending in a radial fashion from opposing sides of the hub, respectively.

9. The tape reel assembly of claim 8, wherein tape reel assembly is configured such that the upper and lower flanges exhibit symmetrical deformation upon application of a radial load to the tape winding surface.

10. The tape reel assembly of claim 8, wherein at least one of the upper flange and the lower flange is formed as part of the annular arm.

11. The tape reel assembly of claim 8, wherein at least one of the upper flange and the lower flange is laser welded to the arm.

12. A data storage tape cartridge comprising:

a housing defining an enclosed region;

at least one tape reel assembly rotatably disposed within the enclosed region and including a hub having:

a cylindrical core defining a drive side and a top side;

an annular arm co-axially disposed exterior to and separated from the cylindrical core, the annular arm defining a tape winding surface bisected by a center line into a

top half opposite the drive side and a bottom half adjacent the drive side;

a web extending from the top side of the core having a web center connecting to the annular arm at a point in the top half; and

storage tape configured to wind about the tape winding surface.

13. The tape reel assembly of claim 12, wherein the hub is configured such that upon loading, the tape winding surface exhibits approximately symmetrical radial deformation.

14. The data storage tape cartridge of claim 12, wherein the web center connects to the annular arm not greater than one-fourth an axial length of the top half.

15. The data storage tape cartridge of claim 12, further comprising an upper flange and a lower flange, the upper and lower flanges extending in a radial fashion from opposing sides of the hub, respectively.

16. The data storage tape cartridge of claim 15, wherein the upper and lower flanges exhibit symmetrical deformation.

17. The data storage tape cartridge of claim 15, wherein at least one of the upper flange and the lower flange is formed as part of the annular arm.

18. A method of winding data storage tape onto a tape reel assembly comprising:

providing a data storage tape cartridge having a housing enclosing the tape reel assembly, wherein the tape reel assembly includes a hub having:

a cylindrical core defining a drive side and a top side;

an annular arm co-axially disposed exterior to and separated from the cylindrical core, the annular arm defining a tape winding surface bisected by a center line into a top half opposite the drive side and a bottom half adjacent the drive side; and

a web extending from the top side of the core having a web center connecting to the annular arm at a point in the top half;

contacting the tape winding surface with a storage tape;

rotating the tape reel assembly such that the storage tape wraps about the hub and applies a stress of at least 400 pounds per square inch to the tape winding surface; and

configuring the tape winding surface to exhibit approximately symmetrical radial deformation in response to the applied stress.